NOTE ON A CASE OF TYPHOID FEVER WITH PROLONGED PYREXIA.[a]

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[Read in the Section of Medicine, March 22, 1895.]

On Monday, 13th November, 1893, I was asked to see Mr. X. Z., aged twenty-two, a solicitor's apprentice, then in town attending law lectures at the Four Courts. I heard from him that he had been ailing a little over a week. On Sunday, 5th November, he had felt heavy and stupid, and not able for more than a short walk. The following day he was chilly except when sitting by the fire, and on Tuesday so poorly that he remained in bed. His temperature on that day, taken by a medical student, was 101°. For the remaining days of the week he was troubled chiefly with headache, pains in the small of the back, and slight bleeding from the nose. He did not vomit, and the bowels moved twice after a dose of oil, the motions being dark coloured. I further learned from him that, except what a doctor called an attack of "congestion of the liver," he had always been in excellent health, and had taken no inconsiderable share in athletic exercises during his undergraduate course in Trinity College.

On examination I found him rather feverish, sweating, and anxious about himself. The tongue was dry, and he complained of not sleeping well. Physical examination of the thorax was negative, but over the abdomen there were a few suspicious spots. However, I could not satisfy myself that the spleen was enlarged, and I detected neither gurgling nor tenderness in the right iliac fossa. At 10 p.m. that evening he was inclined to sleep. His pulse was 78 and temperature 100° F.

On Tuesday, 14th November, some spots were noticed on his back, but there was still no distinct enlargement of the spleen, and no tenderness on percussion over the abdomen. A motion which I examined was greyish colour and almost quite fluid. I had now little doubt that my patient was suffering from an attack of typhoid fever, and the following day I obtained the services of two nurses.

[a] For Temperature Chart see p. 90.

The next five days everything looked very satisfactory; the temperature ranged between 100° and 102°, and the pulse remained, as indeed it so often does in typhoid, quiet, varying from 76 to 90 per minute. As we were now on to the seventeenth day of his illness, I was hopeful that we were dealing with only a mild and short attack of typhoid fever—a hope which was not realised.

On the evening of the 21st November he complained of pain in the fifth and sixth intercostal spaces on the right side; his respirations increased considerably in frequency, and on auscultation there was a suspicion of friction. By the following day there was modified dulness on percussion over the right side behind when contrasted with the left, and over this area the breath sounds were rather deficient. The respirations were still frequent, but the pain was relieved by poulticing. The urine contained no albumen, and the chlorides were present in apparently normal amount.

November 23rd.—The alæ nasi were working vigorously, and the respirations reached 48. The temperature, which had been rising for the last four days, was now 104·6°, and the expectoration became almost prune juice in character. An examination of the urine now showed the almost complete absence of chlorides. The patient had, therefore, a severe attack of croupous pneumonia of the lower lobe of the right lung, occurring at the end of the third week of typhoid fever. During the succeeding days he suffered from pain in his side, relieved by poulticing and stuping, but slept fairly well, and took liquid nourishment freely.

November 28th.—It was noted that there was deficient resonance on percussion, and on auscultation there was bronchial respiration and increased vocal resonance over the lower part of the right lung. The temperature, in the course of a few days, as the accompanying chart shows, gradually diminished, the pulse fell again to 90, and the respirations to 30. The chlorides were again abundant in the urine on 9th December, but except for the more abundant crepitation there was little alteration in the pulmonary physical signs.

The afternoon temperature for the first time was subnormal on 19th December, and three days later he passed a large solid motion.

On the 23rd December, some weeks after the commencement of his illness, during which period he had been allowed only liquids, he was given leave to take a very small fragment of bread without any crust, and on the 24th December he had a cup of tea, and later in the day a little bread and milk.

December 25th.—Sat up in bed for twenty minutes, and again

in the afternoon for quarter of an hour. As an additional luxury he had a smoke—the first for fifty days.

December 26th.—Allowed a custard with one egg.

December 28th.—A little corn flour with one egg in the afternoon, and a little bread and butter with his tea; at this stage a day's dietary was as follows:—

8 a.m.—Tea with a little bread and butter.
11 a.m.—Custard with one egg.
2 30 p.m.—Corn flour with one egg.
6 p.m.—Tea and a little bread and butter.

During the intervals between the above hours he took some milk or beef-tea.

December 30th.—Sat up in arm-chair for half an hour, and allowed a little fish for dinner.

January 3rd, 1894.—Sat up for two hours. Had chicken for dinner. His appetite and strength improved for the next few days, and everything seemed to be going on well, till the 8th January, when the temperature at 1 p.m. was 100°. I therefore stopped, for a few days, the chicken and the small quantity of butter he had been using daily for the past fortnight. The improvement was not, however, maintained, and the evening temperature continuing to keep up he was again confined to bed for the entire day, and the quantity of solid food he was taking was still further restricted. His diet for each day about the latter end of January was—

9 a.m.—Two cups of tea made with a large proportion of milk.
11 a.m.—Corn flour and milk.
1 15 p.m.—Beef-tea and a little bread.
5 p.m.—Beef-tea again, about 6 ounces.
7 p.m.—About six ounces of milk.
8 30 p.m.—Milk and a little corn flour.

During this period he slept well, his appetite was good, the bowels were moved every second day by a plain soap and water injection, but the temperature still kept irregular, rising one or two degrees above normal each evening. Most careful examination of the abdomen yielded no explanation for this. In the chest the pneumonia had cleared, and the patient had no cough. All the excretions were also examined with negative results. This unaccountable evening pyrexia, slight though it was, suggested the possibility of there being some hidden tubercular mischief—a supposition which was strengthened by the fact that some very

near relatives had died of phthisis. The lungs were again examined, and, though I could detect nothing definite, there seemed to me to be a very slight difference between the auscultatory and percussion phenomena over the apices. On 5th February Dr. Purser kindly saw the patient in consultation with me, and after prolonged examination failed to detect anything to account for the unstability of the temperature. He agreed with me as to the possibility of there being some concealed tubercular focus, but felt that till there were more evident signs of this than any then existing there was good reason for hope that eventually the temperature would come all right. He recommended that the quantity of beef-tea be diminished, and that the patient be again put on solid food. On 10th February I examined the fundus oculi, but there was not the slightest indication of any tubercles—in fact, each eye seemed normal in every respect. The evening pyrexia not abating under the alteration in diet, it was decided to try the effect of quinine, and on the 16th February, and for several weeks following, with occasional intermissions, he took ten grains of quinine daily, generally administered about noon. This did not exert any very marked influence on the temperature, but, judging from the days on which it was not administered, probably the record was one degree lower than it otherwise would have been.

About this time the patient was moved to one of the suburbs, but this change was not attended either by any distinct improvement.

Notwithstanding the irregular pyrexia, the quantity of solid food he was taking was being gradually increased, and on 5th March his dietary was—

Breakfast, 9 a.m.—Tea, toast, one egg, butter and marmalade.
Dinner, 1 10 p.m.—Fowl, potato, half a glass of porter, corn flour, cream, and calf's-foot jelly.
Tea, 5 10 p.m.—Tea, bread and butter.
7 30 p.m.—Egg and milk.
9 p.m.—A little porridge and cream.

Now, as in fact throughout the greater part of his illness, the patient slept very well. As a rule he took his food with relish, and was sufficiently strong to sit up for two or three hours daily. Still the evening temperature in the axilla varied from 99·6° to 100·2°, and the patient was not making much headway.

Towards the middle of March it was thought that a change home to the north of Ireland might be advantageous. As I could detect nothing more than on former occasions to account for his evening

temperature, I was anxious that Dr. Purser should again see him. On examination, on the 14th March, he was satisfied that the slight differences between the pulmonary apices were within normal limits, and consequently felt confirmed in the view he had previously expressed. The journey to the north was borne very well on the 16th March, and records of his condition were forwarded regularly to me.

The change home made no difference apparently in the amount of the fever. On the 12th April it was thought sufficiently mild to allow him out for a short time in the garden, but he was not at all so well a fortnight later. Towards the end of May he was out for a drive of half an hour's duration, and in July he was able to walk up the stairs. Early in August he was moved to Portrush, and commenced to improve rapidly. His temperature soon became normal, his strength steadily increased, and on 10th September—the 299th day of his illness—the temperature having been normal for three weeks, his sister wrote—"I enclose you my brother's last chart. I am certainly glad to see the last of it."

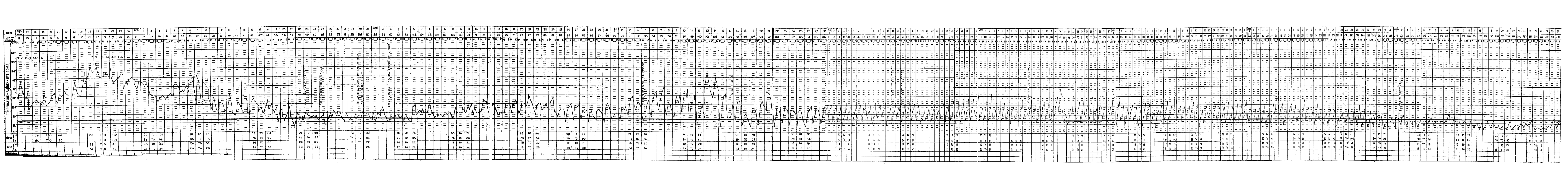
Once turned the corner his progress was rapid, and by the end of October he was sufficiently well to return to town and resume his professional work. He was able, he said, to walk six miles. He had no cough; his appetite was excellent.

February 5th, 1895.—He again consulted me on account of some pain in his left side. I availed myself of this opportunity to make a careful examination of his chest, but with an absolute negative result. There was nothing in the apices, nor even the slightest indication of a pleural friction sound where the pain was. The latter I was forced to look upon as muscular in origin, and a little anodyne liniment soon relieved it. He had no cough whatever, and his weight was now 12st. 7lbs.

February 14th, 1895.—He walked to Lucan and two miles of the way back.

July 13th, 1895.—Called to see me. He is now in the most robust physical health, and never felt better.

The most remarkable feature in the case was the prolonged pyrexia. The earlier part of the chart is sufficiently explained by an attack of typhoid fever, complicated by croupous pneumonia such as the patient had. On the 45th day of his illness (19th December) the temperature became normal, and


TEMPERATURE - CENTIGRADE SCALE
DATE
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it seemed that we had reached the end of the lysis and that convalescence had commenced. With very slight exceptions the temperature remained constant till the 8th January, when at 1 p.m. it reached 100°. It was thought that the increase in the patient's diet, though made very gradually, might be responsible for this elevation, and solids were at once diminished and an almost liquid dietary resumed. This alteration not having the slightest beneficial influence on the temperature, and careful examination failing to disclose any distinct contra-indication to solid food, it was decided to feed him more generously, but likewise with a negative result. Free administration of quinine, removal to suburbs, and even a change to his home in the north of Ireland failed in their turn to keep the temperature within normal limits. Finally, about the 277th day of his illness, just as obscurely and unaccountably as the pyrexia set in, it subsided, and during the last three weeks for which the temperature was recorded, it was always normal. The change to Portrush, though it hastened his convalescence, can hardly, I think, be looked upon as the cause of the disappearance of the fever, as a reference to the chart discloses a tendency towards subsidence before his removal to the sea-side.

At no time was the fever high, but its persistence, without any discoverable cause, produced some anxiety. Repeated physical examination failed to detect any organic lesion, but some abnormal process must have been at work, as, although the patient took his food regularly and slept well, there was remarkably little improvement in his appearance or strength from January till August, when his temperature became normal.

In the absence of any detectable lesion one is left to the imagination, guided and controlled by experience, to suggest more or less plausible hypotheses in explanation of the prolonged course of this case. When the temperature, having

been practically normal for almost a fortnight, in the first week of January again rose, the most probable supposition which then suggested itself to my mind was that the patient had a slight relapse, and I hoped that on diminishing his solid food the fever would disappear. This idea being negatived by the persistence of the exacerbations, the family history, combined with the remittent type of the fever, pointed to the probability of tubercular mischief. The absence of cough, expectoration, and glandular enlargement afforded at the time reason for hope that this was not the case, which the further course of the disease and the very robust health of the patient at present compel us now to seek some other theory. A focus of suppuration might produce such a temperature chart, but there was at no time any discharge of pus, and rigors, profuse sweating, and emaciation were entirely absent.

The literature of typhoid fever, so far as I have been able to consult it, gives no assistance towards the solution of the problem. Murchison describes one case lasting 75 days as "remarkable for long duration." Even admitting that the heat centre is in a condition of unstable equilibrium after a prolonged specific fever, we do not make much advance towards the elucidation of the pyrexia, and it must be borne in mind that during those six months there was very little headway towards convalescence made. It seems much more probable that the temperature and the slow rate of progress were the result of some one abnormal process, than that a mere instability of the heat centre was the cause of the exceedingly slow gain in strength and energy during this period.

But while the solution of this enigma cannot yet be arrived at, the history of the case should prevent us from fixing any limit to the possible duration of an attack of typhoid fever, and its favourable termination may lead us

to trust more firmly in the recuperative powers of nature under circumstances such as those detailed above.

Dr. Purser thought that Dr. Parsons' case differed materially from Dr. Falkiner's. In the latter there were several complications, and the case was that of a young child in which the temperature was much more easily put up. Dr. Parsons' case seemed to have been uncomplicated except for a short attack of pneumonia at the beginning. He thought persons were apt to put too much weight on the single symptom of the temperature. He thought that the explanation of the case was that the nervous mechanism by which the temperature was maintained normal, called the thermotaxic mechanism, was enfeebled, and that the person became for a certain time a poikilothermic animal, which young children always are. During a fever the temperature not only is higher but also more unstable, and even after the temperature comes down to normal it is unstable for a long time, very little causing a rise or fall. So that unless the temperature was accompanied by other symptoms, there was not much ground for alarm. It was interesting to note that the condition which produces an elevation of temperature to 100° in some cases makes the person very ill, while in others it does not. Some time ago he had seen a paper on "Septic and Aseptic Fevers." The writer thought that in some cases the temperature was produced by septic causes, and in other cases by aseptic causes. If the patient's sensations were undisturbed and no physical signs could be found to account for the temperature, then there is not much cause for anxiety.

Dr. Boyd was disposed to agree with Dr. Purser about Dr. Falkiner's case, that the complications would account for the time that the temperature remained elevated. In Dr. Parsons' case he thought the typhoid fever ended about January, and that the further rise of temperature was due to ulceration, possibly of a mesenteric gland. He thought that ulceration often went on in typhoid after the temperature had come down. He had a case in which the temperature was normal after ten days. The patient then took too much fruit, got peritonitis and died. On *Post mortem* examination more than a dozen ulcers were found in the ileum, which had evidently existed from the typhoid attack.

The President thought Dr. Parsons' chart the longest on record,

and that there was no doubt about the diagnosis from the full account given. Dr. Parsons had mentioned that he had given quinine without its lowering the temperature. That was his experience also. He had once given 240 grains of quinine in 24 hours, with the result that the temperature only came down two degrees. He thought that a high temperature was of great value in putting persons on their guard and keeping the patient under observation, but in enteric fever he considered the mere range of temperature unimportant as compared with the aspect of the patient, the condition of his digestive system, and the state of his tongue. He had several times, when the patient was feeling well and had a clean tongue, allowed the patient up, although the evening temperature was 100° or 101°, and had found that the temperature had settled down within 48 hours.

Dr. Parsons, replying, said that according to Murchison 100 days was the longest chart of typhoid fever. He did not see how instability of the thermotaxic centre could explain everything, as there was evidently something wrong with the patient besides his temperature. It was only on July 20th that he was able to walk upstairs. He did not think the cause of the temperature was a suppurating mesenteric gland, as it probably would have burst into his peritoneal cavity and produced peritonitis, which he never had.